




**United States Environmental Protection Agency
Region 9 Laboratory**

1337 S. 46th Street Building 201
Richmond, CA 94804

Date: 7/8/2016

Subject: Analytical Testing Results - Project R16N02
SDG: 16153A

From: Peter Husby, Director 
EPA Region 9 Laboratory
EMD-3-1

To: Eugene E. Bromley
NPDES Permits Section
WTR-2-3

Attached are the results from the analysis of samples from the **Southern California Oil Platforms Spring 2016** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Colby Tucker, Enforcement, Water Section
Susan Zaleski, BOEM
James Salmons, BSEE

Analyses included in this report:

Metals by ICP	Ammonia as N
Semivolatile Organic Compounds by GC/MS	Abalone Toxicity



United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Eugene E. Bromley

Project Number: R16N02

Project: Southern California Oil Platforms Spring
2016

NPDES Permits Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 16153A

Reported: 07/08/16 11:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
Gina	1606001-01	Water	05/31/16 08:00	06/01/16 10:10
Gina - Duplicate	1606001-02	Water	05/31/16 08:00	06/01/16 10:10

SDG ID 16153A

Work Order(s)

1606001

The samples were received at 10 degrees C, which is above the recommended temperature range of 2 - 6 degrees C. No significant effect on sample results is anticipated.

Oil and Grease Testing:

Sample containers provided for oil and grease analysis were delivered to Curtis and Thompkins Laboratory in Berkeley, CA.

Abalone Toxicity Testing:

Requested analysis was for abalone development toxicity tests using *Haliotis rufescens* (red abalone) following Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/600/R-95/136 and USEPA Region 9 Laboratory SOP #1004, RED ABALONE (*Haliotis rufescens*) LARVAL DEVELOPMENT TOXICITY TEST. A concurrent reference toxicity test was conducted for quality control as specified in the method. Statistical analyses were conducted using the CETIS statistical database program, version 1.9.0.8 for the reference toxicity test and produced water toxicity tests.

The test concentrations were based on the oil platform NPDES general permit requirements using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). The chronic WET permit limit that must be met is rejection of the null hypothesis (Ho). Platform Gina results rejected the null hypothesis and is reported as Pass. All QA/QC criteria were met.



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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1606001-01									
Water - Sampled: 05/31/16 08:00									
Sample ID: Gina									
Total Metals by EPA 200 Series Methods									
Chromium		ND	U	100	ug/L	B16F019	06/06/16	06/07/16	200.7
Copper		ND	U	100	"	"	"	"	200.7
Zinc		770		100	"	"	"	"	200.7
Sample ID: Gina									
Semivolatile Organic Compounds by EPA Method 8270D									
Benzo(a)anthracene		ND	U	47	"	B16F006	06/01/16	06/10/16	8270D
Chrysene		ND	U	47	"	"	"	"	8270D
Benzo(b)fluoranthene		ND	J, Q2, U	47	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	J, Q2, U	47	"	"	"	"	8270D
Benzo(a)pyrene		ND	U	47	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	47	"	"	"	"	8270D
Surrogate: Terphenyl-d14									
111 % 47-130%									
Sample ID: Gina									
Conventional Chemistry Parameters by APHA/EPA Methods									
Ammonia as N		44		0.50	mg/L	B16F062	06/15/16	06/15/16	350.1
Sample ID: Gina									
Aquatic Toxicity Test by EPA Methods									
Test of Significant Toxicity		Pass		%		B16F181	06/01/16	06/01/16	TOX_SOP1004
Lab ID: 1606001-02									
Water - Sampled: 05/31/16 08:00									
Sample ID: Gina - Duplicate									
Total Metals by EPA 200 Series Methods									
Chromium		ND	U	100	ug/L	B16F019	06/06/16	06/07/16	200.7
Copper		ND	U	100	"	"	"	"	200.7
Zinc		860		100	"	"	"	"	200.7
Sample ID: Gina - Duplicate									
Semivolatile Organic Compounds by EPA Method 8270D									
Benzo(a)anthracene		ND	U	50	"	B16F006	06/01/16	06/10/16	8270D
Chrysene		ND	U	50	"	"	"	"	8270D
Benzo(b)fluoranthene		ND	J, Q2, U	50	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	J, Q2, U	50	"	"	"	"	8270D
Benzo(a)pyrene		ND	U	50	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	50	"	"	"	"	8270D
Surrogate: Terphenyl-d14									
109 % 47-130%									
Sample ID: Gina - Duplicate									
Conventional Chemistry Parameters by APHA/EPA Methods									
Ammonia as N		44		0.50	mg/L	B16F062	06/15/16	06/15/16	350.1



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD Limit
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Batch B16F006 - 3520C CLLE - SVOCs

Prepared: 06/01/16 Analyzed: 06/10/16

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Blank (B16F006-BLK1)

Benzo(a)anthracene	ND	U		1 ug/L					
Chrysene	ND	U		1 "					
Benzo(b)fluoranthene	ND	U		1 "					
Benzo(k)fluoranthene	ND	U		1 "					
Benzo(a)pyrene	ND	U		1 "					
Dibenz(a,h)anthracene	ND	U		1 "					

Surrogate: Terphenyl-d14

57.1

"

50.0

114

47-130

LCS (B16F006-BS1)

Benzo(a)anthracene	10.2			1 ug/L	10.0		102	67-110	200
Chrysene	10.4			1 "	10.0		104	67-111	200
Benzo(b)fluoranthene	11.9			1 "	10.0		119	60-110	200
Benzo(k)fluoranthene	12.2			1 "	10.0		122	65-117	200
Benzo(a)pyrene	10.7			1 "	10.0		107	56-110	200
Dibenz(a,h)anthracene	10.2			1 "	10.0		102	59-119	200

Surrogate: Terphenyl-d14

58.8

"

50.0

118

47-130

Matrix Spike (B16F006-MS1)

Source: 1606001-01

Benzo(a)anthracene	114			49 ug/L	97.4	ND	117	60-120	20
Chrysene	115			49 "	97.4	ND	118	60-120	20
Benzo(b)fluoranthene	99.8			49 "	97.4	ND	102	59-119	20
Benzo(k)fluoranthene	111			49 "	97.4	ND	114	59-119	20
Benzo(a)pyrene	96.9			49 "	97.4	ND	100	46-110	20
Dibenz(a,h)anthracene	94.4			49 "	97.4	ND	97	60-120	20

Surrogate: Terphenyl-d14

555

"

487

114

47-130

Matrix Spike Dup (B16F006-MSD1)

Source: 1606001-01

Benzo(a)anthracene	108			50 ug/L	99.4	ND	108	60-120	5	20
Chrysene	109			50 "	99.4	ND	110	60-120	5	20
Benzo(b)fluoranthene	101			50 "	99.4	ND	102	59-119	2	20
Benzo(k)fluoranthene	98.9			50 "	99.4	ND	100	59-119	12	20
Benzo(a)pyrene	93.4			50 "	99.4	ND	94	46-110	4	20
Dibenz(a,h)anthracene	93.9			50 "	99.4	ND	94	60-120	0.6	20

Surrogate: Terphenyl-d14

539

"

497

108

47-130

Batch B16F019 - 200 Series Digest - Metals by 200.7, Total

Prepared: 06/06/16 Analyzed: 06/07/16

Total Metals by EPA 200 Series Methods - Quality Control

Blank (B16F019-BLK1)

Chromium	ND	U		10 ug/L					
Copper	ND	U		10 "					



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B16F019 - 200 Series Digest - Metals by 200.7, Total

Prepared: 06/06/16 Analyzed: 06/07/16

Total Metals by EPA 200 Series Methods - Quality Control

Blank (B16F019-BLK1)

Zinc	ND	U	10	"						
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LCS (B16F019-BS1)

Boron	313		100	ug/L	300		104	85-115		200
Calcium	1,080		100	"	1000		108	85-115		200
Chromium	409		10	"	400		102	85-115		200
Copper	304		10	"	300		101	85-115		200
Iron	3,230		100	"	3000		108	85-115		200
Magnesium	2,150		500	"	2000		108	85-115		200
Potassium	10,500		2,000	"	10000		105	85-115		200
Sodium	3,290		500	"	3000		110	85-115		200
Zinc	211		10	"	200		105	85-115		200

Matrix Spike (B16F019-MS2)

Source: 1606001-01

Chromium	366		100	ug/L	400	ND	91	70-130		20
Copper	270		100	"	300	ND	90	70-130		20
Zinc	1,000		100	"	200	766	118	70-130		20

Matrix Spike Dup (B16F019-MSD2)

Source: 1606001-01

Chromium	359		100	ug/L	400	ND	90	70-130	2	20
Copper	248		100	"	300	ND	83	70-130	8	20
Zinc	948		100	"	200	766	91	70-130	6	20

Batch B16F062 - - General Inorganic - Nitrogen, Ammonia

Prepared & Analyzed: 06/15/16

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B16F062-BLK1)

Ammonia as N	ND	U	0.05	mg/L						
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LCS (B16F062-BS1)

Ammonia as N	5.13			mg/L	5.00		103	90-110		200
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Matrix Spike (B16F062-MS2)

Source: 1606001-01

Ammonia as N	49		0.5	mg/L	5.00	44.5	90	90-110		10
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Matrix Spike Dup (B16F062-MSD2)

Source: 1606001-01

Ammonia as N	49		0.5	mg/L	5.00	44.5	90	90-110	0	10
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Batch B16F181 - - General Biology - Toxicity, Abalone

Prepared: 05/29/16 Analyzed: 06/01/16

Aquatic Toxicity Test by EPA Methods - Quality Control

Reference (B16F181-SRM1)

EC 50	43			ppb	52.2		82	55.1-144.9		
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Qualifiers and Comments

Q2 The laboratory control standard associated with this sample did not meet recovery criteria for this analyte (see LCS results for this batch in QC summary).

Pass Pass

J The reported result for this analyte should be considered an estimated value.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.